

**Report of Alexander Street, Ph.D.**  
**in the case of**  
***League of Women Voters of Ohio et al. v. LaRose***  
***United States District Court: Southern District of Ohio***  
**August 24, 2020**

**1. Background, qualifications and purpose**

1. I am an Associate Professor of Political Science at Carroll College in Helena, Montana. I hold a Ph.D. in Political Science from the University of California, Berkeley, conferred in 2011. I also hold a First Class undergraduate degree in Politics, Philosophy and Economics from the University of Oxford. I have held postdoctoral fellowships at the European University Institute, Cornell University, and with the Max Planck Society. I have published nine peer-reviewed articles, in addition to several book chapters, reviews and reports. I am attaching a copy of my Curriculum Vitae to this report. My published research uses statistical analysis of data from voter files, the census bureau, election returns, and public opinion surveys. This work has appeared in leading scholarly journals in my field and I have won Best Paper and Best Article awards from organized sections of the Western Political Science Association and the American Political Science Association, respectively.

2. My research using data from voter files has been cited favorably in a court case on the effects of voter registration deadlines in the state of Massachusetts. I have been retained as an expert and submitted an expert report in *N.Y. League of Women Voters et al. v. N.Y. State Board of Elections et al.*, No. 160342/2018 in New York state court concerning New York's registration deadline. Likewise, I have also been retained as an expert and submitted an expert report in *Western Native Voice v. Stapleton*, in the Montana 13<sup>th</sup> Judicial District Court, concerning the effects of a prohibition on ballot collecting for voters living on Indian Reservations in Montana.

3. I have been asked by the plaintiffs to analyze the effects of requiring election officials to verify signatures on absentee ballot applications and on absentee ballot return envelopes in Ohio. I have also been asked to address the adequacy of opportunities for Ohio electors whose application or ballot is rejected for signature mismatch to resolve the issue so that they can register or vote absentee. To do this, I have used publicly available evidence on Ohio elections in addition to documents provided to counsel for the plaintiffs in response to public records requests.<sup>1</sup> The plaintiffs asked me to address these questions using the same techniques of

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<sup>1</sup> At points in this report I refer, for the sake of brevity, to absentee ballot signature checking, even though the signature is required on the returned "identification envelope" rather than the ballot itself. In addition, as I will show, the same logic applies to the efforts of election officials to verify signatures on ballot *applications* as well.

analysis, data collection and statistical testing that I use in my scholarly research. I am being compensated at a rate of \$200 per hour for my work on this matter. This compensation is not in any way contingent on the nature of my findings or on the outcome of this litigation.

4. I will make three main points. First, I apply mathematical principles to illuminate problems inherent in the process of election officials seeking to verify signatures on absentee ballots. Second, I present new evidence on the rate at which absentee ballot *applications*, even more often than absentee ballots, are rejected for perceived signature mismatch. And third, I explain how the inherent problems with attempts to verify signatures in this context align with data on the practicality of electors “curing” wrongly rejected applications or ballots in order to exercise the right to vote, given the time constraints at work. As I will explain, election officials in Ohio follow very different practices in recording information on absentee ballot and ballot application rejections for signature mismatch, which has forced me to rely on often incomplete and sometimes incommensurate evidence. I will present baseline estimates showing the minimum extent of the problem, while allowing that the full extent of the problem is difficult to assess but is certainly greater.

## **2. Previous research on the problems that arise due to absentee ballot signature checking**

### **2a) Mathematical statement of the problem**

5. Ohio law requires that election officials verify the signatures submitted with returned absentee ballots: “election officials shall compare the signature of the elector on the outside of the identification envelope with the signature of that elector on the elector's registration form and verify that the absent voter's ballot is eligible to be counted.”<sup>2</sup> There is no requirement that the signatures on absentee ballot *applications* must also be verified, but many county elections offices around Ohio do also seek to verify those signatures. I have not seen evidence that the Ohio election officials who check signatures are formally trained in recognizing handwriting, or trained to be aware of the range of natural variation that can arise across signatures written by the same person. I know of no evidence that these officials have access to equipment such as microscopes that would enhance the precision of their work, and I believe that they are often under pressure to check hundreds or thousands of signatures in little time. I will therefore refer to the officials doing this work as untrained, under-resourced and time-pressured lay people.

6. There are inherent problems in asking untrained, under-resourced and time-pressured lay people to check voter signatures. When an error-prone process of this kind is applied to a set of documents with many, many more valid signatures than invalid signatures, the inevitable result

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<sup>2</sup> Ohio Revised Code § 3509.06 (D) (1).

is that many valid signatures will be wrongly rejected for each invalid signature that is correctly rejected. The logic of the problem can be clarified using a well-known mathematical theorem.

7. Bayes' Theorem, a mathematical insight dating back to the 18<sup>th</sup> century, has been widely used by scientists across academic disciplines (and has inspired an entire branch of modern statistics). Bayes' Theorem provides a consistent logic for updating one's beliefs based on evidence. The theorem is often stated as follows, where  $P$  stands for probability, the symbol  $|$  means "given," and  $*$  indicates multiplication:

$$P(A|B) = \frac{P(B|A) * P(A)}{P(B)}$$

8. One way to put this in words is that the probability of  $A$  given  $B$  can be calculated by considering how much one has learned about the chance of seeing  $A$  from the fact that one observes  $B$ , given one's *prior* expectation of the chance of seeing  $A$ , while accounting for all of the other ways that one could have observed  $B$ . In this case, we can calculate how useful it is to ask untrained, under-resourced and time-pressured lay people to verify signatures on absentee ballots (or ballot applications) by asking what share of the signatures that are rejected by such people are actually instances of ballots signed by the wrong person. For the sake of brevity, I will refer to ballots signed by the person eligible to do so as "valid" and to ballots signed by someone else as "invalid."

9. We can use Bayes' Theorem to calculate  $P(\text{ballot invalid}|\text{ballot rejected})$ . Given that an absentee ballot (or ballot application) was rejected for signature mismatch, what is the probability that the signature was actually invalid? Bayes' Theorem implies that this conditional probability can be calculated as follows:

$$P(\text{ballot invalid}|\text{ballot rejected}) = \frac{P(\text{ballot rejected}|\text{ballot invalid}) * P(\text{ballot invalid})}{P(\text{ballot rejected})}$$

10. The denominator on the right side of the above equation can be fleshed out as follows, to account for all of the ways in which ballots can be rejected by signature checkers, which also includes the possibility that some valid ballots are improperly rejected:

$$= \frac{P(\text{ballot rejected}|\text{ballot invalid}) * P(\text{ballot invalid})}{P(\text{ballot rejected}|\text{ballot invalid}) * P(\text{ballot invalid}) + P(\text{ballot rejected}|\text{ballot valid}) * P(\text{ballot valid})}$$

11. As I will show, this probability,  $P(\text{ballot invalid}|\text{ballot rejected})$ , can be calculated for a plausible range of real-world conditions using evidence gathered by scholars who have studied

errors in handwriting recognition, and by drawing on evidence on the rates at which voters submit invalid signatures due to mistakes or attempted fraud.

## **2b) Evidence on the errors that arise, even when experts assess handwriting**

12. Even experts make errors in assessing whether a signature is genuine. In experimental tests, errors are committed by trained Forensic Document Examiners (FDEs) who are presented with both a series of genuine variants of a person's signature, and a series of signatures written by other people aiming to simulate the genuine versions. This is notable because these errors occur even among experts working under ideal conditions: with multiple versions of the genuine signature (making it easier to distinguish natural variation for a single signer), with tools such as microscopes, and with plenty of time. In contrast, election officials typically lack training, tools and time, and typically compare the signature on an absentee ballot with just a single version of the voter's signature that was recorded when the person registered to vote—which may have been many years in the past.

13. For example, Kam et al. (2001) find that even FDE experts wrongly reject valid signatures at a rate of 7.05%, and wrongly accept invalid signatures at a rate of 0.49%. Sita, Found and Rogers (2002) report that FDEs wrongly reject valid signatures at a rate of 5.31% and wrongly accept invalid signatures at a rate of 1.52%. In each case, the scholars running these tests found that FDEs are much more accurate than lay people without training.<sup>3</sup> Still, in order to illustrate the inherent problems with requiring absentee ballot (and ballot application) signature checks, for the sake of argument I will show that the problems are acute, even under absolute best-case assumptions about the accuracy of election workers in taking on this task. This also allows for the possibility that election officials do acquire some expertise in their work (e.g. through formal or informal training, or by practice), and may in some cases be able to take the time to work carefully rather than rushing to certify the election results. For example, taking the numbers from the first study by Kam et al., one may infer that, if election officials are as accurate as FDE experts,  $P(\text{ballot rejected}|\text{ballot valid}) = 7.05\%$ , and  $P(\text{ballot rejected}|\text{ballot invalid}) = 99.51\%$ . This makes it possible to clearly illustrate why even experts would be likely to make many mistakes when confronted with far more valid than invalid signatures. The only number remaining in order to complete the Bayesian calculation, as described above, is an estimate of the true prevalence of invalid signatures on absentee ballots, i.e.,  $P(\text{ballot invalid})$ .<sup>4</sup>

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<sup>3</sup> Kam et al. find that lay people wrongly reject 26.1% of valid signatures, and wrongly accept 6.47% of invalid signatures. Sita, Found and Rogers do not report these rates separately for genuine/simulated signatures for the lay people in their study, but do report much higher error rates, with an overall error rate of 25.3% wrong opinions.

<sup>4</sup>  $P(\text{ballot valid})$  is simply  $1 - P(\text{ballot invalid})$ , since the full set of probabilities must sum to 1.

## 2c) Previous research on the low prevalence of voter ballot errors and voter fraud

14. Invalid signatures on absentee ballots (or absentee ballot applications) could arise either through error or through fraud. Voters do make errors, of course. For instance, some voters think it is acceptable to sign for a family member, and some neglect to sign the envelope when returning their own absentee ballots. In fact, the former group are not wholly wrong, since election officials in some places will substitute the signatures of spouses if they are in possession of both ballots, on the assumption that the spouses mistakenly signed for each other after having placed the ballots in envelopes.<sup>5</sup>

15. To my knowledge there is no comprehensive record of the rate at which voters make mistakes in signing absentee ballots. Many election offices do, however, record the number of absentee ballots that are rejected because there is no signature on the return envelope. The U.S. Election Assistance Commission (EAC) surveys state and county election officials after each federal general election. Recent EAC reports show state and county officials reporting that, in 2018, 0.182% of the 30 million absentee ballots returned by voters, around 55,000 in total, were rejected because they lacked a signature.<sup>6</sup> And in the 2016 general election, 0.2% of the 33 million absentee ballots returned by voters were rejected because there was no voter signature (around 66,000 no-signature ballot rejections).<sup>7</sup> I expect that voters make the mistake of signing someone else's ballot, such as that of a family member or housemate, at a roughly similar rate to the rate at which voters neglect to sign their ballot. In other words, I believe that this rate of around 0.2%, or one in five hundred ballots, provides a credible starting point for estimating the prevalence of voters mistakenly signing the wrong ballot. Using the Bayesian terminology, this is a first step to arriving at a reasonable *prior* belief for  $P(\text{ballot invalid})$ .

16. Likewise, there is no universally accepted estimate of the rate at which voters seek to commit fraud by signing someone else's ballot. The rate at which absentee ballot fraud is detected and prosecuted is *extremely* low, even though some states such as Oregon now have decades of experience with all-mail voting. A prominent research and advocacy organization whose

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<sup>5</sup> This is the practice of election officials in the county where I live, in Montana. The official who told me this said that this is based on statewide training, which in turn is based on training in the state of Colorado.

<sup>6</sup> These numbers are for domestic absentee voters. The EAC reports also show that, in 2018, uniformed and overseas citizens returned an additional 344,392 absentee ballots, of which 0.71% (around 2500 ballots) were rejected for "signature issues," a category that may include missing signatures or signatures deemed not to match the original on record. See [https://www.eac.gov/sites/default/files/eac\\_assets/1/6/2018\\_EAVS\\_Report.pdf](https://www.eac.gov/sites/default/files/eac_assets/1/6/2018_EAVS_Report.pdf)

<sup>7</sup> The 2016 EAC report shows that a further 633,613 ballots were returned by uniformed and overseas citizens, of which around 0.5% (about 3,000 ballots) were rejected under the broader category of "signature issues." See [https://www.eac.gov/sites/default/files/eac\\_assets/1/6/2016\\_EAVS\\_Comprehensive\\_Report.pdf](https://www.eac.gov/sites/default/files/eac_assets/1/6/2016_EAVS_Comprehensive_Report.pdf)

employees have raised alarm on this issue maintains a database of alleged and prosecuted cases of voter fraud, but even this yields very low estimates of the rate of fraud, because the appropriate denominator is such a large number.<sup>8</sup> There are indeed occasional instances in which ballot fraud is detected, and these tend to get a lot of media attention. But to calculate the prevalence of the problem one must also account for the fact that many thousands of elections are held each year—for units from the special district, municipal, county, and state to the federal level, for offices ranging in scope from local mosquito control to the U.S. Presidency, and on issues ranging from local taxes to state constitutional amendments—featuring hundreds of millions of valid ballots. Using such numbers, one academic expert estimates that the rate of fraud involving absentee ballots is 0.00006%, or about one in 1.7 million absentee ballots.<sup>9</sup>

17. It is possible, of course, that there are additional hidden cases of absentee ballot voter fraud. Those who raise alarm over voter fraud claim that there are many as-yet-undetected cases, but these claims ring hollow after decades in which the activists, organizations and even elected officials making these claims have failed to provide substantial evidence to support their claims.<sup>10</sup> The most plausible research from academic experts indicates that the prevalence of voter fraud is very low (see, e.g., Ahlquist, Mayer and Jackman 2014; Levitt 2011; Minnite 2010). In order to illustrate the inherent problems with requiring untrained, under-resourced and time-pressured lay people to check absentee ballot (and ballot application) signatures, however, I will show that even if one takes the very highest estimate of the prevalence of any form of voter fraud of which I am aware, the result is still that many valid ballots are wrongly rejected for each invalid ballot that is correctly rejected.<sup>11</sup> The highest estimate that I have seen on the prevalence of voter fraud, in academic research using plausible data sources and methods, concerns the prevalence

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<sup>8</sup> The Heritage Foundation database also presents more specific information on alleged instances of fraud involving absentee ballots. Using the full database range from 1979 through 2020, for all U.S. States, and searching for civil penalties/criminal convictions/diversion program/judicial findings/official findings, and for “fraudulent use of absentee ballot”, I find 206 cases, over a period in which *billions* of votes were cast (see [https://www.heritage.org/voterfraud/search?combine=&state=All&year=&case\\_type=All&fraud\\_type=24489](https://www.heritage.org/voterfraud/search?combine=&state=All&year=&case_type=All&fraud_type=24489)).

<sup>9</sup> See <https://thehill.com/opinion/campaign/494189-lets-put-the-vote-by-mail-fraud-myth-to-rest> Accessed August 20, 2020. Prof. Stewart has also written on votes lost due to ballot rejections (Stewart 2010).

<sup>10</sup> For example, in a recent court case featuring prominent alarmists a federal judge in Kansas found the claims of former Kansas Secretary of State Kris Kobach and the experts whom Kobach had recruited in the case to be unpersuasive. See <https://www.propublica.org/article/kris-kobach-voter-fraud-kansas-trial>

<sup>11</sup> In general, in a research field in which scholars have produced a range of estimates, the way to get the most credible estimate would be to take a (perhaps weighted) average of the estimates. But that is not what I am trying to do. Rather, for the sake of argument, I am taking the very highest estimate in research on *any* form of voter fraud to illustrate the point that, even in the worst-case scenario in which absentee ballot fraud is *much* more common than most experts think, trying to stop fraud by verifying signatures is liable to create more problems than it solves.

of double voting (i.e., one person voting in multiple districts). The authors (Goel et al., 2020) estimate that as many as one in four thousand (0.025% of) voters may have cast two ballots in the 2012 general election.<sup>12</sup> To illustrate my argument that there are inherent problems with asking untrained, under-resourced and time-pressured lay people to check absentee ballot signatures, I will show that these problems arise even if one allows for the strongest possible case in favor of signature checking. So I will use this highest remotely plausible estimate on the prevalence of voter fraud to take the next step towards arriving at a reasonable upper limit for the *prior* belief over  $P(\text{ballot invalid})$ .

**2d) Wrongful rejections of ballots with valid signatures are far more common than correct rejections of ballots with invalid signatures**

18. Taking together these illustrative numbers on the rate of absentee voter signature errors and absentee ballot signature fraud, I propose that a reasonable upper limit *prior* concerning the prevalence of ballots with invalid signatures is 0.2% (rate of error) plus 0.025% (worst-case rate of fraud), or 0.225%.<sup>13</sup> In the Bayesian logic outlined above, then, I propose to calculate the probability that a ballot is actually invalidly signed given that it is rejected by signature checkers, i.e.,  $P(\text{ballot invalid}|\text{ballot rejected})$ , using the following estimates:

$$P(\text{ballot rejected}|\text{ballot valid}) = 0.0705 \text{ (estimate from Kam et al., 2001)}$$

$$P(\text{ballot rejected}|\text{ballot invalid}) = 0.9951 \text{ (estimate from Kam et al., 2001)}$$

$$P(\text{ballot invalid}) = 0.00225 \text{ (allowing error rate of 0.002, fraud rate of 0.00025); thus}$$

$$P(\text{ballot invalid}|\text{ballot rejected}) = \frac{(0.9951 * 0.00225)}{((0.9951 * 0.00225) + (0.0705 * 0.99775))} = 0.0308$$

19. This means that there is only a 3% probability that an absentee ballot which has been rejected for signature mismatch actually features an invalid signature. There is a 97% probability that the ballot has been wrongly rejected. To put it another way, for every one invalid ballot that is correctly rejected for signature mismatch, an additional 32 valid ballots are wrongly rejected due

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<sup>12</sup> Verifying signatures would not prevent this form of attempted fraud, since a person registered in two jurisdictions could just use their true signature. I suspect that attempted voter *impersonation*, which is where signature checks might help, is even rarer. For the sake of argument, however, I am using the highest estimate that I have seen on any form of voter fraud. It might be possible to prevent double-voting by deleting names from lists of registered voters if those names appear in more than one jurisdiction. As Goel et al. (2020) explain, however, sometimes, just by chance, different people happen to share a name and even a birthday. And indeed, there may be far more such cases, than there are attempts at double voting. As a result, as Goel et al. (2020, 456) argue, “one suggested strategy to reduce double voting—removing the registration with an earlier registration date when two share the same name and birthday—could impede approximately 300 legitimate votes for each double vote prevented.”

<sup>13</sup> This is a rate of 1 in 444 invalid signatures. It also implies that the remaining 99.775% of signatures are valid.



to errors by the non-experts trying to verify signatures.<sup>14</sup> Bayes' Theorem clarifies the logic. The reason for the problem is that since invalidly signing an absentee ballot is a very rare event, even if election officials are fairly good (92.95% accurate) at recognizing valid signatures and are really quite good (99.51% accurate) at identifying invalid ones, there are just *so many* cases of valid signatures that a considerable number of those will be wrongly rejected, and *so few* cases of invalid signatures that even if most of them are detected they will only make up a tiny share of all the ballots rejected.<sup>15</sup> This is the problem of trying to measure instances of a rare outcome using imprecise procedures, a problem well known to scholars in other fields, such as those studying rare diseases (see, e.g., Altman and Bland 1994).

20. The above calculation serves to illustrate the logic of the problem. To show the implications of a wider set of conditions under which errors in signature checking will occur, I now provide a range of estimates to show how the number of wrongful rejections for every correct rejection can be expected to vary, depending on a range of variation in the accuracy of the signature checkers and depending on a range of estimates of the prevalence of invalid signatures. To do this I take estimates on ballot checking accuracy for both lay people and FDEs from the paper by Kam *et al.* (2000), and I allow the assumed prevalence of invalidly signed absentee ballots to vary from one in forty thousand to one in a hundred.<sup>16</sup> The results are shown in Table 1.

**Table 1.** Number of wrongly rejected valid ballots for every correctly rejected invalid ballot, under varying levels of signature checker accuracy, and varying rates of invalidly signed absentee ballots

Estimated prevalence of invalidly signed absentee ballots	Ballots wrongly rejected for each correctly rejected: If ballot checkers as accurate as lay people in Kam <i>et al.</i>	Ballots wrongly rejected for each correctly rejected: If ballot checkers as accurate as FDE experts in Kam <i>et al.</i>
One in forty thousand	11,163	2,835
One in ten thousand	2,791	709
One in four thousand	1,117	284
One in four hundred	112	29
One in one hundred	29	8

<sup>14</sup> Note that the number of wrongful rejections for each correct rejection is 1 over the Positive Predictive Value, here  $1/P(\text{ballot invalid}|\text{ballot rejected})$ .

<sup>15</sup> To put it yet another way, 0.49% of a very large number is much more than 92.95% of a very small number. I would rather have 0.49% of \$4,000 (about \$20) than 92.95% of a dollar (about 93 cents).

<sup>16</sup> Note that I consider an invalid signature rate of 1/100 to be utterly implausible, far too high. My purpose here is to illustrate the dynamics of this problem.



21. Table 1 shows that both the accuracy of the signature checkers and the prevalence of invalidly signed ballots matters, as shown by the variation across columns and rows, respectively. Crucially, the table also shows that even assuming that election officials are able to obtain the best-case level of accuracy shown by FDE experts, and even if the prevalence of invalidly signed absentee ballots were wildly, implausibly high at a rate of one in a hundred, one would still expect to see about eight valid ballots wrongly rejected for each invalid ballot that is correctly rejected. Even under those extreme conditions, requiring under-resourced and time-pressured election officials to check voter signatures would result in those workers substituting their own errors for voter errors (or attempted fraud) at a rate of about eight to one. It is worth emphasizing that even if election officials are cautious in rejecting ballots, their caution would itself be exercised with imprecision. If *any* absentee ballots, or ballot applications, are rejected for signature mismatch, it is probable that most of the rejections will be due to errors by election officials.

22. In some contexts, it may be worth using tests that yield high numbers of false positives (in this case, falsely rejecting a validly signed ballot). To use a current example, in the case of a viral pandemic, it might be acceptable to mistakenly tell a lot of people that they should self-quarantine for two weeks, while only correctly telling a relatively small number of people who are infected that they should self-quarantine. Self-quarantine is disruptive but it is not generally a great hardship, whereas even relatively small reductions in the rate at which the virus is passed along can have great social benefits (reducing the “reproduction number” to the point that each infection results in less than one additional infections would eventually cause an epidemic to end). But in the case of untrained, under-resourced and time-pressured lay people wrongly rejecting absentee ballot (and ballot application) signatures, the cost is high and the benefits are dubious. Dozens or even hundreds of people risk having their ballot rejected, and may have their confidence in the electoral system shaken, for each correctly rejected invalid ballot.

23. One possible benefit of requiring that absentee ballot (and ballot application) signatures be checked is that, if it is public knowledge that signatures are checked, this could deter people who might otherwise be tempted to sign and return someone else’s ballot.<sup>17</sup> This must be balanced against the cost: the high rate of wrongful rejections that must be expected based on the calculations above, the risk of substituting poll worker errors for voter errors, and the risk of reduced political trust among those whose ballots are rejected. The ratio of costs to benefits would be more reasonable if voters whose ballots are rejected for signature mismatch have convenient and timely opportunities to receive notification and to resolve the issue. In the

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<sup>17</sup> I am not aware of survey data on the question of whether it is well-known that absentee ballot signatures are checked, or well-known how they are checked. Not all states require elections workers to check absentee ballot signatures (see <https://www.ncsl.org/research/elections-and-campaigns/verification-of-absentee-ballots.aspx>).

following sections of this report I will present evidence on whether or not this is the case in the state of Ohio. To do this, I will draw together evidence from various sources on the prevalence of absentee ballot (and ballot application) signature mismatch rejections in the state, on the proportion of these rejections that voters who actually submitted validly signed ballots (or applications) were able to resolve, on the timing of absentee ballot applications, and on the timing of ballot delivery and return.

### **3. Evidence on signature mismatch rejections for absentee ballot *applications* in Ohio**

24. Ohio allows no-excuse absentee voting<sup>18</sup> but, unlike some states, does not allow voters to opt into permanent absentee status so that they can cast all votes by mail. Instead, voters must submit a new application to vote absentee for each election.<sup>19</sup> This application can be submitted as early as the beginning of the calendar year in which the election is held, or three months in advance, whichever is earlier, and as late as three days before the election.<sup>20</sup> Upon information from counsel for the plaintiffs it is my understanding that at least some (and perhaps a clear majority of) Ohio counties require that the signatures on absentee ballot *applications* be verified against the original signature on record from when each voter registered, even though signature verification at the application stage is not required under Ohio law. This extra layer of signature checks risks causing two additional problems. First, this additional check can be expected to increase the rate at which an error on the part of the election officials seeking to verify signatures will impose the burden of resolving the problem upon the would-be voter.<sup>21</sup> Well-established scholarship in the field of political science shows that, even if some voters are able to lift the burden, this kind of additional inconvenience tends to reduce turnout (see, e.g., Brady and McNulty 2011; Holbein and Hillygus 2016; McNulty, Dowling and Ariotti 2009). Second, a signature check at the absentee ballot *application* stage risks introducing delays that make it hard for voters to resolve the issue, obtain an absentee ballot, and return it, all in time for their vote

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<sup>18</sup> Ohio Revised Code § 3509.02 (A).

<sup>19</sup> Ohio Revised Code § 3509.02.

<sup>20</sup> Ohio Revised Code § 3509.03 (D).

<sup>21</sup> If election officials mistakenly reject validly signed ballots due simply to chance variation in voter signatures, or chance pressures on the officials e.g. due to varying time constraints, then doubling the number of times each voter's signature must be checked would roughly double the number of rejections. If random factors were at work then the likelihood of a given person being rejected twice would be low, so long as the overall rate of rejection is low. If, on the other hand, there are systematic patterns in the factors affecting mistaken rejections in addition to an element of chance, e.g., if certain sets of voters are more likely to have their signatures deemed invalid, then doubling the number of signature checks could result in a wider range of combined rates of rejection. I cannot, however, imagine circumstances under which doubling the number of signature checks by checking at both the application and ballot stage would fail to lead to an increase in the number of valid signatures mistakenly rejected.

to be counted. This is especially likely if there are inadequate procedures for notifying voters of a mismatch rejection at this stage. Electors whose absentee ballot *applications* are rejected might be able to resolve the issue by casting an absentee ballot in-person, although, under the current pandemic conditions this may result in exposure to the very health risks that they were trying to avoid when they applied to vote absentee.

25. As noted in Section 1, a recurring theme of this report is that Ohio counties collect and report idiosyncratic and often incomplete data related to the process of absentee voting in general, and relating to signature mismatch rejections in particular. By necessity, the evidentiary basis for my analysis is incomplete and results from different counties are not always directly comparable. Nonetheless, there is much that we can learn from studying the available data. Social scientists are well-used to the necessity of drawing inferences from limited data, and I will follow standard academic practice in explaining how I organized and analyzed the available data, what we can learn, and which possibilities may be ruled out.

26. My first finding, based on the available evidence, is that in recent federal elections, thousands of absentee ballot applications in Ohio have been rejected because of “signature issues,” i.e., either a missing signature or a signature mismatch. Although many of the electors affected were able to resolve the issue and receive an absentee ballot, most of whom went on to vote, the available evidence suggests that thousands more were not able to do so. As I will discuss in the next section of my report, the timing was often tight enough to make this difficult. There appear to be many more signature related rejections at the absentee ballot *application* stage than at the absentee ballot stage.

27. State and county officials in Ohio provide uniform information on absentee ballot rejections but not, to my knowledge, on absentee ballot *application* rejections. By studying data on the application stage, I am revealing what I believe was a previously invisible layer of the issue. The data show that, much like an iceberg, this previously hidden layer is much bigger than the layer which was already visible. My main sources for this analysis are the responses of county election officials to public records requests submitted by counsel for the plaintiffs, who asked for the number of absentee ballot and absentee ballot application rejections in recent years. Unfortunately, the election officials of Ohio’s 88 counties responded in wildly different ways. Some wrote short notes to the effect that they did not have the information. Some appear to have ignored parts of the request and have provided data only on the electors who successfully registered to vote absentee (i.e., they provided no information about rejections at the application stage). Others provided pdf files, some hundreds of pages long, showing the names and addresses of voters whose applications had been rejected. Some sent digital scans of individual absentee ballot applications (with some details redacted). Even those counties that did report

relevant evidence often did so using different categories, e.g., some only reported a generic category of “signature issue” while others distinguished between “no signature” and “signature mismatch.” Some provided evidence on which voters were able to resolve the issue to receive an absentee ballot, and when that happened, while others did not. Some counties provided information only for the 2020 federal primary election, while others provided information going back to the 2018 and/or 2016 general elections. Some provided information in different formats or at different levels of detail for each election. In many cases, the data were provided without explanation of the abbreviations or categories used in the files, or without details on exactly which classes of applicants they covered (e.g., it was not always clear if the officials had opted only to show information on rejected applicants who had *not* been able to resolve the issue).

28. Given the often opaque, inconsistent and incomplete nature of the evidence, I decided that the best strategy was to limit my analysis to the counties that reported data in a format amenable to statistical analysis, i.e., those that provided individual-level data using a spreadsheet format (not including the unhelpful pdf-format copies of a spreadsheet). As it happens, this included several of the most populous counties in the state, along with several suburban or rural counties with smaller populations. The problem with this approach is that I have no way to assess whether the information available is representative of the entire state. This makes it impossible to offer a numerical estimate of the extent of the problem, state-wide. I present these results as a baseline. With this evidence, for instance, we know that there were at least 10,038 cases in which absentee ballot applications were rejected for “signature issues” (often alleged mismatch) for federal elections over recent years. There must have been more, in the other counties that did not provide (readily interpretable) evidence. I don’t know how many more.

29. Table 2 presents my results for recent federal elections. I show the numbers of rejections, and calculate the proportion of rejections from all applications received by mail. Where possible I present evidence on both domestic absentee ballot applications and applications under UOCAVA, the Uniformed and Overseas Citizens Absentee Voting Act (not all counties noted whether they included both categories, but where they do, I include both). For the sake of comparability, I report rejections for “signature issue” since several counties provide only this broad designation. Where possible, I distinguish between “no signature” and “signature mismatch” rejections in the footnotes.

**Table 2.** Evidence on absentee ballot *application* rejections from Ohio counties that provided accessible data for the 2020 federal primary election

County	Number (and percentage) of absentee ballot applications <sup>22</sup> rejected for “signature issue”	Number (and percentage) of voters whose absentee ballot application was rejected for “signature issue,” but who cured
Butler <sup>23</sup>	324 (0.77% of applications)	219 (61% of the rejected)
Clinton <sup>24</sup>	18 (0.4% of applications)	6 (33% of the rejected)
Cuyahoga <sup>25</sup>	1,305 (0.66% of ballots)	772 (62% of the rejected)
Franklin <sup>26</sup>	2,159 (1.30% of applications)	Not available

<sup>22</sup> Percentages are calculated using the total number of absentee ballot applications sent remotely (mostly by mail). I assume that no in-person absentee voters cast ballots that were rejected for signature mismatch since, in those cases, the election official could simply ask for ID. In Ohio, beginning “the day after the close of voter registration, all registered voters may request and vote an absentee ballot in person at their county board of elections or early voting center as designated by the county.” See <https://www.ohiosos.gov/elections/voters/absentee-voting/#inPerson> Accessed August 20, 2020. See Ohio Revised Code § 3509.051.

<sup>23</sup> Butler County reported separate data at this stage for “signature missing” and “signature discrepancy.” For the 2020 federal primary, 253 absentee ballot applications were rejected for the former reason, and 71 for the latter.

<sup>24</sup> Officials from Clinton County provided unusually full information for the 2020 federal primary. For that election, in addition to the 6 people whose absentee ballot applications were rejected for signature issues but who were able to resolve the issue in advance, a further 7 people cast provisional ballots, albeit, potentially, at a risk to their health.

<sup>25</sup> Cuyahoga County provided a file including the names and addresses of 598 electors whose absentee ballot applications were rejected as “signature invalid” and another 707 rejected for “signature not provided.” To calculate the percentage of ballots rejected, in this case, I used the number of absentee ballots cast in the election, as reported by the Ohio Secretary of state’s website absentee reports (regrettably, the county did not provide information on the number of applications rejected for other reasons, so the denominator is smaller than it should be, but, from what I have seen in other counties, this would not greatly affect the percentage). An email from the county said that none of these people cured. But I was able to match 96% of them with names and addresses in the county voter file. I calculated that 772 of the people (62%) did vote in the 2020 federal primary, and using a county absentee report I also found that 562 of them had been able to register and were sent or given an absentee ballot. Of those, 498 sent their absentee ballot in for counting. An additional 274 voted in-person; presumably, most of them did so as early absentee voters in March, although a few who qualified to vote in person on April 28 may have done so (this information is not reported in the files).

<sup>26</sup> Franklin County reported separate data at this stage for “No Sig” and “MisMatch SIG.” For the 2020 federal primary election 1,542 absentee ballot applications were rejected for the former reason, and 617 for the latter. A further 85 applications were rejected for additional reasons that also included “No Sig” or “MisMatch SIG,” e.g., they also lacked an address. Since few other counties report signature issue rejections in a way that allows me to count the additional reasons for rejections, in an effort to facilitate comparisons I do not include the additional 85 in the total here. However, Franklin County did not provide information on whether these applicants were able to cure, nor does the information on those rejected include information such as a unique voter ID that would allow me to match the applicants with voter history data to determine whether they were able to register absentee or vote.

Hamilton <sup>27</sup>	290 (0.18% of applications)	10 (3% of the rejected)
Lucas <sup>28</sup>	118 (0.24% of applications)	0 (0% of the rejected)
Summit <sup>29</sup>	782 (1.04% of applications)	448 (57% of the rejected)
Warren <sup>30</sup>	75 (0.19% of applications)	3 (4% of the rejected)
<b>2018 general election</b>		
Butler <sup>31</sup>	348 (1.40% of applications)	Not available
Clermont <sup>32</sup>	72 (0.27% of applications)	Not available
Summit <sup>33</sup>	1,224 (2.13% of applications)	250 (20% of the rejected)
Warren <sup>34</sup>	45 (0.12% of applications)	Not available
<b>2016 general election</b>		
Butler <sup>35</sup>	299 (1.1% of applications)	168 (56% of the rejected)
Franklin <sup>36</sup>	2,023 (1.29% of applications)	Not available

<sup>27</sup> For the 2020 federal primary, Hamilton County reported 244 absentee ballot applications rejected because of a missing signature, and another 46 that were missing a signature in addition to other problems. Hamilton County but did not report any absentee ballot *applications* rejected for signature mismatch for this election.

<sup>28</sup> It is possible that Lucas County officials interpreted the public records request to refer only to those whose applications were rejected and were unable to resolve the issue. This would account for the finding that none of them were able to cure; it would also imply a higher number of applications may initially have been rejected.

<sup>29</sup> Summit County reported distinctive reasons for absentee ballot application rejections in 2020, including “Need Original Signature” (35 instances), “No Signature” (441) and “Signature Update” (306). I report the sum of these.

<sup>30</sup> Warren County reported only the generic category of “signature issue.”

<sup>31</sup> For the 2018 federal primary election, Butler County reported 126 absentee ballot applications rejected for “no signature” and a further 222 rejected for “signature discrepancy.” The county did not provide information that would allow me to test whether any of those rejected were able to resolve the issue.

<sup>32</sup> Clermont County provided a spreadsheet with numbers for the 2018 general election, but not individual-level data that would allow me to test whether any of those whose applications were originally rejected were able to cure.

<sup>33</sup> Summit County reported distinctive reasons for absentee ballot application rejections in 2018, including “Need Original Signature” (19 instances), “No Signature” (305) and “Signature Update” (900). I report the sum of these.

<sup>34</sup> Again, Warren County reported only the generic category of “signature issue.”

<sup>35</sup> In 2016, Butler County reported 146 absentee ballot application rejections for “signature missing,” and a further 153 for “signature discrepancy.”

<sup>36</sup> Franklin County reported separate data at this stage for “No Sig” and “MisMatch SIG.” For the 2016 general election 659 absentee ballot applications were rejected for the former reason, and 1,364 for the latter. A further 186 applications were rejected for additional reasons that also included “No Sig” or “MisMatch SIG,” e.g., also lacked

Summit <sup>37</sup>	956 (1.43% of applications)	705 (74% of the rejected)
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30. In total, across these three federal elections, I documented 10,038 cases in which an absentee ballot application was rejected for “signature issues,” and I was only able to confirm that 2,581 of those applicants (26%) were able to resolve the issue and receive an absentee ballot, or, in some cases, cast a provisional ballot at the polling place.<sup>38</sup> Of those instances in which the available evidence clearly distinguished between “no signature” and “signature mismatch,” 55% of the rejections were due to a missing signature, and the remaining 45% were rejected by election officials who lack training on handwriting recognition but nonetheless declared a mismatch between the signature on the application and the signature on file for the elector. Given the rates at which absentee ballot applications were rejected in the relatively small number of counties that provided data in a format amenable for analysis, I judge it likely that many more applications have been rejected for “signature mismatch” (or “no signature”) in Ohio’s other counties. But since it is not possible to assess whether the available data are representative of the rest of the state, I cannot provide a precise estimate or a measure of the uncertainty corresponding with such an estimate.

#### **4. Evidence on absentee ballot application timing in Ohio**

31. When officials reject absentee ballot applications for signature mismatch this act confronts electors with the choice of either doing the extra work to resolve the issue, or giving up. Many people face other demands on their time, e.g. from family or employers. Even those who are determined to resolve the issue may struggle if little time remains before ballots are due, especially if such people are determined to vote by mail rather than in-person (which may pose health risks).<sup>39</sup> Ohio allows absentee ballot applications up to three days before the election. To

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an address. Since few other counties report signature issue rejections in a way that allows me to count the additional reasons for rejections, to be cautious, I do not include the additional 186 in the total here.

<sup>37</sup> For the 2016 general election Summit County reported distinctive reasons for absentee ballot application rejections, including “Need Original Signature” (13 cases), “No Signature” (368) and “Signature Update” (575). I report the sum of these. In Summit County I matched the information on rejected applications with the list of voters sent absentee ballots, and found that, of the 705 people who went on to successfully register or vote despite the initial rejection, 46 people did so by voting in-person, which may not be a safe option for some electors in the 2020 general election (and potentially even thereafter) due to the viral pandemic.

<sup>38</sup> Limiting the analysis to the counties that provided sufficient information for me to check whether initially rejected applications were cured, I find that 48% were cured (2581/5391).

<sup>39</sup> I was able to confirm that, in one of the few counties that provided sufficient information (Butler County), electors whose absentee ballot application was rejected for signature mismatch were more likely to resolve the issue and be sent an absentee ballot, if they had applied earlier. The median and mean application date were each 7 days earlier,



assess the number of people who may struggle, due to time restraints, to resolve the issue if their absentee ballot application is rejected for signature mismatch, I calculated absentee ballot application timing in the counties that provided data amenable to analysis. To be counted, absentee ballots returned through the mail must be postmarked at least one day before the election, and received within ten days after the day of the election.<sup>40</sup>

32. The USPS recently issued guidance that election officials should allow at least one week for ballots to be received by voters, and at least one more week for the voted ballots to be returned. In a letter to Ohio Secretary of State Frank LaRose dated July 30, 2020, the USPS also wrote that, “under our reading of Ohio’s election laws, certain deadlines for requesting and casting mail-in ballots are incongruous with the Postal Services’ delivery standards. This mismatch creates a risk that ballots requested near the deadline under state law will not be returned by mail in time to be counted under your laws as we understand them.”<sup>41</sup> Although the USPS guidance does not refer to the possibility that absentee ballot *applications* would be rejected and that the problem would need to be resolved, the situation is even more acute for people whose applications are rejected, due to a perceived signature mismatch. Following the USPS guidance, it might take a week for an absentee ballot application to travel from the elector to the elections office, and another week for a letter informing the elector that their application had been rejected to get back to the elector. That implies a worst-case of up to a month of back and forth, although the USPS guidance does not indicate what share of voters could be exposed to such worst-case delays. The USPS guidance continues, “Where voters will both receive and send a ballot by mail, voters should submit their ballot request early enough so that it is received by their election officials at least 15 days before Election Day at a minimum, and preferably long before that time.” I therefore pay particular attention to this recommended minimum 15-day period.

33. I begin with evidence on the 2016 and 2018 general elections. Figure 1, below, shows the number of absentee ballot applications received by day in the months leading up to the 2016 general election in Summit County. Ohio electors may apply to vote absentee in a particular election starting on January 1<sup>st</sup> of the year in which the election will be held, or 90 days in advance, whichever is earlier.<sup>42</sup> As the figure shows, most applications are received by elections

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for those who were able to cure, than for those who did not cure. The difference in means is statistically significant ( $p=0.03$ ). The data in this case are for the 2016 federal general election.

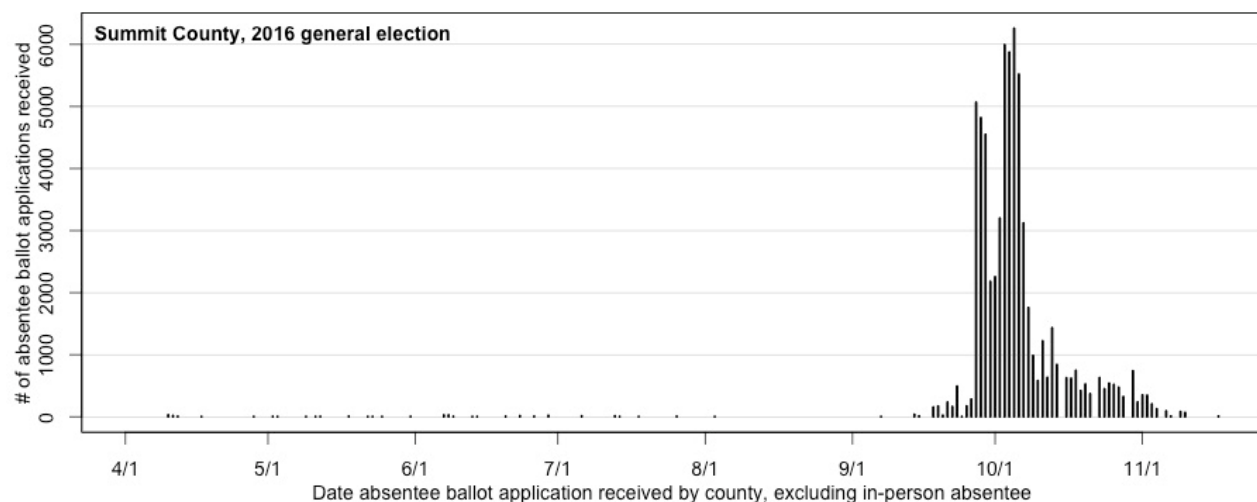
<sup>40</sup> Ohio Revised Code § 3509.05.

<sup>41</sup> See Appendix, Exhibit A.

<sup>42</sup> Ohio Revised Code § 3509.03 (D).

offices in the final few weeks of the election campaign period, from late September through late October (the deadline in 2016 was November 5). This is consistent with findings in previous research that voters tend to wait until quite close to an election before making up their minds and making preparations for registering or casting their votes (e.g., Gimpel, Dyck and Shaw 2011; Street *et al.* 2015). In Summit County that year, the median application sent through the mail was received 31 days (a little over four weeks) before the deadline. A total of 5,190 absentee ballot applications were received by mail over the final 15 days before the election, or 7.8% of all applications.<sup>43</sup>

**Figure 1.** The timing of absentee ballot applications received through the mail in Summit County for the 2016 federal general election

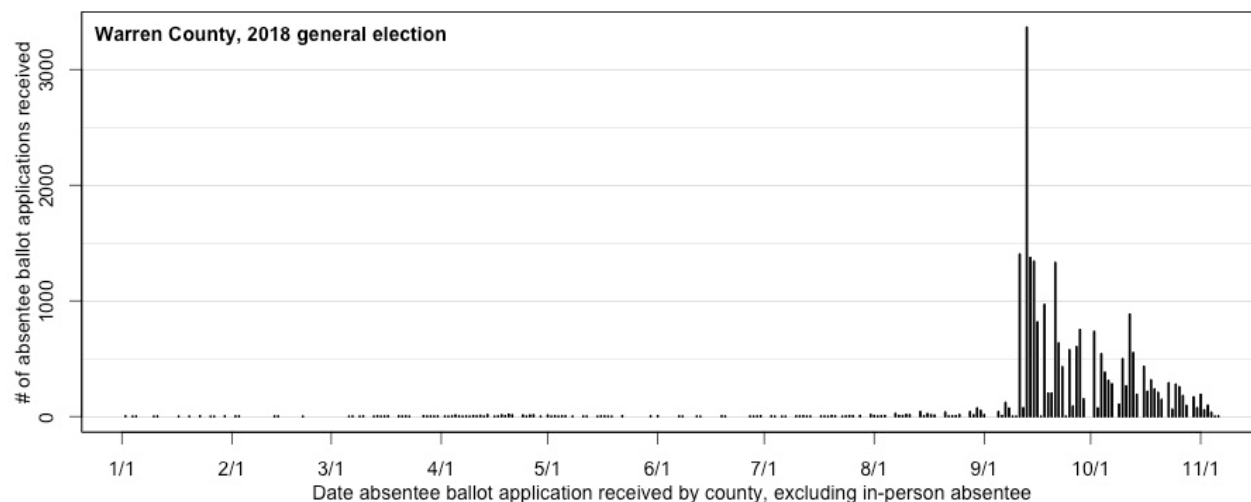


34. I found similar patterns for the 2018 federal general election. Figure 2, below, shows the daily number of absentee ballot applications received through the mail in Warren County. Again, the activity is mainly concentrated in the period from mid-September through early November. In Warren County that year, the median application sent through the mail was received 41 days (a little under six weeks) before the deadline. A total of 1,782 absentee ballot applications were received by mail over the final 15 days before the election, or 6.3% of all applications.<sup>44</sup>

<sup>43</sup> The only other County to provide sufficiently detailed information for similar calculations for 2016 was Butler County. There, the median mailed application was received 47 days (a little under 7 weeks) before the deadline. A total of 1,713 absentee ballot applications were received over the final 15 days before the election, or 6.3% of all applications to vote absentee in the November 2016 general election.

<sup>44</sup> No other counties provided sufficient information to calculate the timing of absentee ballot applications for the 2018 election. I did, however, calculate the timing of *successful* absentee ballot applications for a few counties. This has the disadvantage of excluding those received after the deadline, but, since those are relatively small in number, that makes little difference to the central tendency (the bigger concern is over applications received by the deadline, but with too little time to get the ballots to voters, and back to elections offices, and if necessary deal with any

**Figure 2.** The timing of absentee ballot applications received through the mail in Warren County for the 2018 federal general election



35. Finally, I also present evidence on absentee ballot application timing for the 2020 federal primary. That election was originally scheduled for March 17 but was postponed at late notice, the night before the election, as a public health precaution in response to the COVID-19 viral pandemic. Thereafter, it was once again possible to apply for an absentee ballot to vote for the revised election on April 28, but very few people were allowed to vote in-person.<sup>45</sup> The absentee ballot application deadline was extended to April 27. As a result of these unusual conditions, absentee ballot application timing was spread over a longer than expected (yet interrupted) period, over the course of which period voting absentee also became the only viable way for most Ohioans to participate.

36. Figure 3, below, shows the daily number of absentee ballot applications received through the mail in Lucas County for the 2020 primary. The figure reveals an initial uptick in the number of applications around mid-February, about one month before the originally intended date of the election. But there were also many more absentee ballot applications, submitted by mail, starting in late March through late April. Because of this late interest, at a time when voting absentee was the only option for most, the median absentee ballot application sent through the mail was received just 17 days before the deadline. A total of 20,626 absentee ballot applications

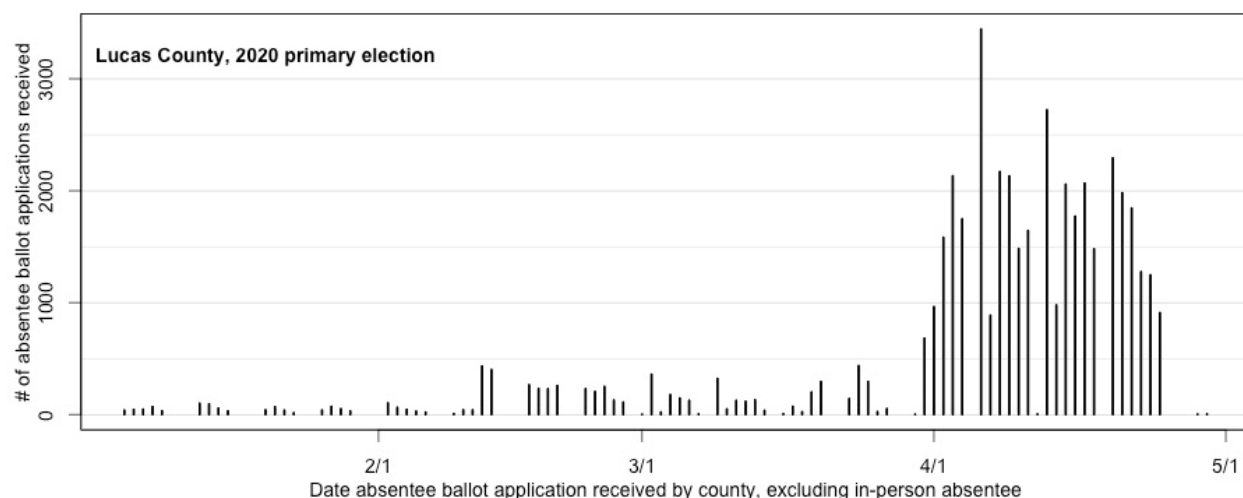
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rejections, before the final deadlines for mailing or receipt of ballots). In Hamilton County, the median application was received 39 days before the deadline, and in Clinton County, the median was 44 days before the deadline.

<sup>45</sup> Only those with a disability or with no home address were allowed to vote in-person, while people who had applied by the revised deadline of April 27, but had not yet received an absentee ballot, had the option of casting a provisional ballot in-person, if they were willing to face the risk of infection.

were received by mail over the final 15 days before the election, or 44.3% of all applications mailed for that election.<sup>46</sup> Clearly, in this election, the fact that so many voters switched to voting absentee pushed the typical application date much closer to election day.

**Figure 3.** The timing of absentee ballot applications received through the mail in Lucas County for the 2020 federal primary election



37. The last-minute postponement of Ohio’s federal primary election also provides an unusually clear opportunity to assess the effect of allowing electors whose absentee ballot application was rejected for alleged signature mismatch (or other reasons) *more time* to resolve the issue. For example, people who applied to vote absentee in early March but whose initial applications were rejected, leaving them only a few days to resolve the issue before the original election date, were suddenly given several more weeks in which they could try again. A skeptic of my analysis—in particular, of my claim that rejecting absentee ballot applications only a few days or weeks in advance is likely to hinder voting—might object that the kind of person whose absentee ballot application was submitted fairly late, and was rejected, may be unlikely to actually get their act together and register, even if they had more time. The sudden postponement of Ohio’s 2020 primary allows me to test and reject that counter-argument.

38. Only two counties provided sufficiently detailed information to make this comparison: Butler and Cuyahoga. In each case, I found that electors whose absentee ballot application was rejected over the final two weeks leading up to the original March 17 election were significantly more likely to cure than electors whose absentee ballot applications were rejected over the final two

<sup>46</sup> I calculated similar patterns in other counties. For instance, in Butler County, the median absentee ballot application for the 2020 primary election was received by the county 18 days before the deadline, and 18,604 ballots (45.6% of applications received by mail for this election) arrived over the final 15 days before the election.

weeks leading up to the rescheduled date of April 28.<sup>47</sup> Focusing on this two-week time period enhances comparability and makes it harder to imagine alternative explanations, beyond the effect of time constraints. These results imply that time constraints *per se* make electors whose absentee ballot applications are rejected close to Election Day less likely to vote, in addition to any underlying differences that may exist between the people who apply for an absentee ballot well in advance or relatively late.

39. Overall, this analysis shows that Ohioans who opt to apply for an absentee ballot tend to submit their application over the final few weeks before the election, even though they do have the option of doing so months earlier. This is broadly consistent with other research on voter registration and voting timing which shows that Americans respond to imminent elections or to deadlines (e.g., Gimpel, Dyck and Shaw 2007; Herron and Smith 2012; Street *et al.* 2015). This pattern was much stronger for Ohio's 2020 federal primary election, even though that election was postponed by around six weeks. Of course, the chaotic circumstances induced by the viral pandemic make it hard to generalize from that election. On the other hand, it now appears that somewhat similar, if hopefully less chaotic conditions may well obtain for the November 2020 general election, in particular. The coming election is likely to see many more voters submitting absentee ballot applications than in recent years; many of them have not previously voted absentee. Comparing the 2016 and 2020 federal primary elections, Ohio saw a 448% increase in the number of domestic mail absentee ballots submitted (285,045 in 2016 versus 1,562,716 in 2020).<sup>48</sup> I expect that the timing of absentee ballot applications will be somewhere between the timing observed for 2016/2018 and the timing observed for the 2020 primary, i.e., the median application will be submitted at some point between the 6-7 weeks typical of the earlier elections and the 2-3 weeks seen in the most recent federal election in Ohio. I also judge it probable that many thousands of absentee ballot applications will be submitted *after* the 15-day advance period now recommended by the USPS. To date, Ohio does not allow absentee ballot

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<sup>47</sup> In Butler County, 71% of those whose applications were rejected over the two weeks leading up to March 17 were able to resolve the issue and register to receive an absentee ballot by mail, versus 23% of those whose applications were rejected over the final two weeks leading up to April 28. This difference is statistically significant at  $p < 0.01$ . The sample size was smaller for the subset of people whose applications were rejected due to signature missing or a missing signature, in particular, but I found a similar pattern. For the final period in March, 56% cured, versus 25% for the final period in April (the difference is statistically significant at  $p = 0.04$ ).

In Cuyahoga County, the sample size allowed me to focus the analysis on people whose applications were rejected due to perceived signature mismatch. I found that 38% of those rejected for this reason in the two weeks leading up to March 17 were subsequently able to register absentee, compared to just 8% of those whose applications were rejected in the two weeks leading up to April 28.

<sup>48</sup> Calculated from absentee supplemental reports on the Ohio Secretary of State's website. Accessed 8/21, 2020.

applications to be submitted online, although I believe that this option has been discussed and it would certainly help (since it would eliminate mailing time for the application).<sup>49</sup>

### **5. Evidence on the prevalence of signature mismatch rejections for absentee ballots in Ohio**

40. The evidence on the number of absentee ballots themselves that are rejected for signature mismatch is somewhat better than that available for absentee ballot applications. Some information is reported for each Ohio county via the Election Administration and Voting Survey (EAVS) compiled by the U.S. Election Assistance Commission. The EAVS reports the number of final rejections but does not reveal the number of ballots initially rejected for signature mismatch, hence, regrettably, the EAVS does not provide evidence on the number of voters whose signatures were deemed invalid by untrained, under-resourced and time-pressured elections workers, and who had to take further steps to cure their rejected application in order to vote absentee. Tables A1 and A2 in the Appendix show the numbers of domestic and UOCAVA absentee ballots transmitted by mail that were rejected for perceived “signature mismatch” (this is specified for domestic voters) or under the broader category of “signature problem” (which is all that is reported for UOCAVA ballots). The Appendix tables show these numbers, respectively, for the 2016 and 2018 federal general elections. The tables also show the percentages of all returned mail absentee ballots in each class that were rejected for these reasons. Combining these categories across the two elections, Ohio reports 577 ballots rejected for signature mismatch (only 28 of them under the broader category of “signature problem”), or 0.027% of all such ballots returned.<sup>50</sup> To put it another way, for every 10,000 mail absentee ballots returned in Ohio in the 2016 and 2018 general elections, 2.7 were rejected for alleged signature mismatch.

41. The EAVS only covers general elections. Hence, the EAVS will not provide information on the 2020 federal primary election in Ohio, even though that primary election is instructive as a case in which the number of people casting absentee ballots rose sharply in response to pandemic conditions. Comparing the 2016 and 2018 EAVS reports with data provided in response to public records requests on behalf of the plaintiffs, for the subset of counties that provided data in a format amenable to analysis, I found that the number of rejections by county were identical or similar in the two sources. I did not find any large discrepancies between absentee ballot

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<sup>49</sup> See <https://www.dispatch.com/news/20200428/after-problem-plagued-primary-ohio-leaders-disagree-about-november-election-plan> Accessed August 20, 2020.

<sup>50</sup> Signature related ballot rejection rates were 4-5 times higher for UOCAVA voters than for domestic absentee voters, at around 0.1% or one in a thousand ballots rejected. This may be partly due to the fact that the broader category of “signature problem” would include not only alleged mismatches but also missing signatures; as noted above, for the counties that sufficient provided information to distinguish between the two for domestic voters, at the absentee ballot application stage, there were roughly equal numbers of each kind of rejection.

rejections for alleged signature mismatch, comparing the 2020 primary election to the earlier general elections covered by the EAVS.<sup>51</sup> Data available through the Ohio Secretary of State's website also suggest that the, while the proportion of absentee ballots that went uncounted was quite similar, comparing the 2020 primary election to earlier years, the total number of absentee ballots that went uncounted did increase (since so many more ballots were cast absentee). Table 3, below, shows the numbers of ballots reported to have been cast and counted in reports provided by the Ohio Secretary of State.<sup>52</sup> The table also shows the number of ballots that were cast but *not* counted, either because the ballots were rejected or because they were spoiled (e.g., electors sometimes leave ballots blank, or vote for multiple candidates for a single office).

**Table 3.** Uncounted absentee ballots in recent Ohio elections

	Number of absentee ballots cast	Number of absentee ballots counted	Number (and percentage) of absentee ballots that went uncounted
2016 primary election	450,901	446,508	4,393 (0.97%)
2018 primary election	1,379,191	1,367,399	11,792 (0.85%)
2020 primary election	1,831,640	1,810,486	21,154 (1.15%)

42. Overall, then, the available data from a range of sources tell a consistent story about absentee ballot rejections, and absentee ballot rejections for signature mismatch, in particular. The share of ballots rejected is much lower than the share of absentee ballot *applications* rejected. As the number of absentee ballots has increased, the number of rejections has increased in rough proportion. This trend may well continue into the November 2020 general election, in which case we can expect to see hundreds or perhaps thousands of absentee ballots rejected for alleged signature mismatch. Whether it is feasible for voters whose ballots are rejected to resolve the issue will depend in part on the amount of time remaining, from the point at which absentee ballots are returned to elections offices, to the deadlines for mailing, curing and counting. On these questions of timing, the records provided by select Ohio counties are again instructive.

<sup>51</sup> I was able to compare numbers for Brown, Clinton, Cuyahoga, Franklin, Greene, Hamilton, Highland, Lucas, Summit and Warren counties.

<sup>52</sup> Calculated from absentee supplemental reports on the Ohio Secretary of State's website. Accessed 8/21, 2020. These reports do not report the number of absentee ballots counted separately for return by mail vs. in-person. I expect that prospective in-person absentee voters who, for instance, were ineligible to vote in Ohio, or were unable to provide identification, were denied an absentee ballot, rather than allowed to return a ballot that would not be counted. This implies that the number of ballots cast in-person that go uncounted is relatively small. Absentee ballots cast in-person would go uncounted if the ballot were spoiled, however.



## 6. Evidence on absentee ballot return timing in Ohio

43. Ohio law provides a period of up to seven days after an election for electors to “cure” a defect such as an alleged signature mismatch,<sup>53</sup> although ballots may be received and counted up to ten days after an election. This implies that there are three days when ballots are received but election officials will not even try to inform the elector of a rejection. The Ohio Secretary of State requires election officials to mail a form telling the voter that their ballot has been rejected, and why, within two business days of receiving a ballot deemed “defective” (through the third Saturday prior to an election), or within one calendar day if the ballot is received between the third Monday and last Friday prior to an election, or on the same day if the ballot is received from the Saturday prior to an election through the 6<sup>th</sup> day following an election.<sup>54</sup> Under a range of plausible circumstances, this timing is absurdly tight. An absentee ballot could be postmarked the day before the election and returned to the elections office through the mail on the fifth day after an election, for instance, and the signature deemed invalid, on which day the board of elections should mail the form telling the voter about the problem—but in order for the elector to resolve the issue, the elector would have to receive the form by the very next day and get it back to the election office the day after that. As the USPS guidance quoted earlier in this report notes, even under favorable conditions, “most domestic First-Class mail is delivered 2-5 days after it is received by the Postal Service” (see Exhibit A in the Appendix). Based on the USPS guidance, allowing a week for delivery in each direction and one day for processing, 15 days total, absentee ballots that are returned starting in the week prior to the election may well be rejected with too little time remaining to allow voters to be notified of the problem and for them to cure by the deadline. In my analysis I therefore pay particular attention to the share of ballots received by election officials starting on the Monday eight days before election day.

44. In this context, the evidence on absentee ballot return timing for recent elections is alarming. For the 2016 general election in Summit County, for instance, 481 (0.9% of) absentee ballots returned by mail were received back to the election office after election day, a further 5,316 (10.3%) on the Monday and Tuesday of the election week, and another 12,531 (24.3%) over the week before that. In sum, 18,328 absentee ballots (35.6% of those returned by mail) were

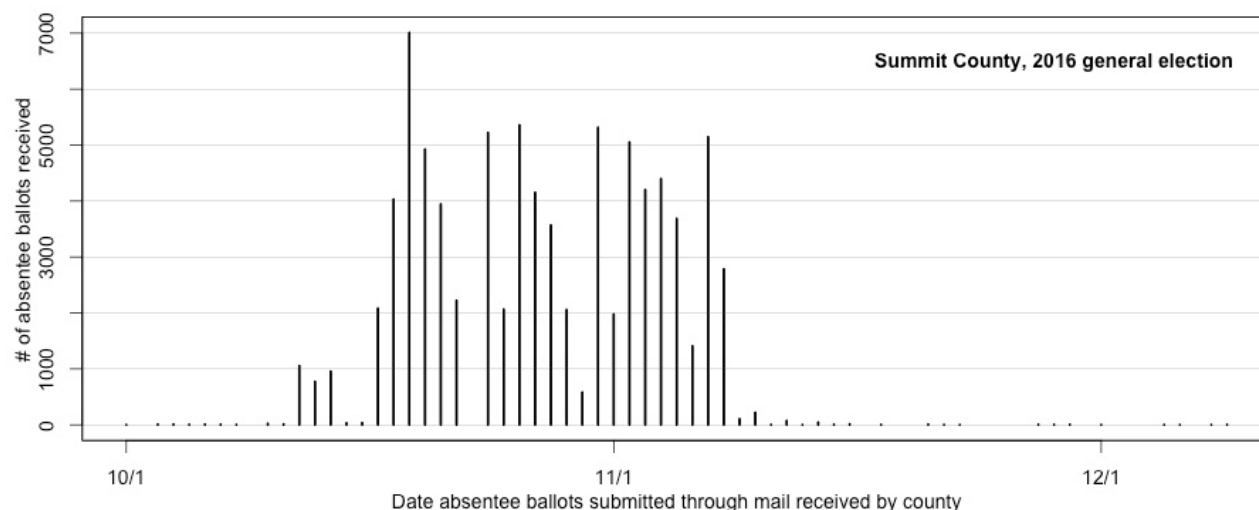
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<sup>53</sup> Ohio Revised Code § 3509.06(D)(3)(b).

<sup>54</sup> [https://www.ohiosos.gov/globalassets/elections/directives/2019/dir2019-11\\_eom.pdf](https://www.ohiosos.gov/globalassets/elections/directives/2019/dir2019-11_eom.pdf) Page 5-27. Accessed August 21, 2020.

received over the final 9 days through election day, or thereafter. Figure 4, below, illustrates the timing of absentee ballot return timing in Summit County that year.<sup>55</sup>

**Figure 4.** The timing of absentee ballots returned through the mail and received by Summit County for the 2016 federal general election

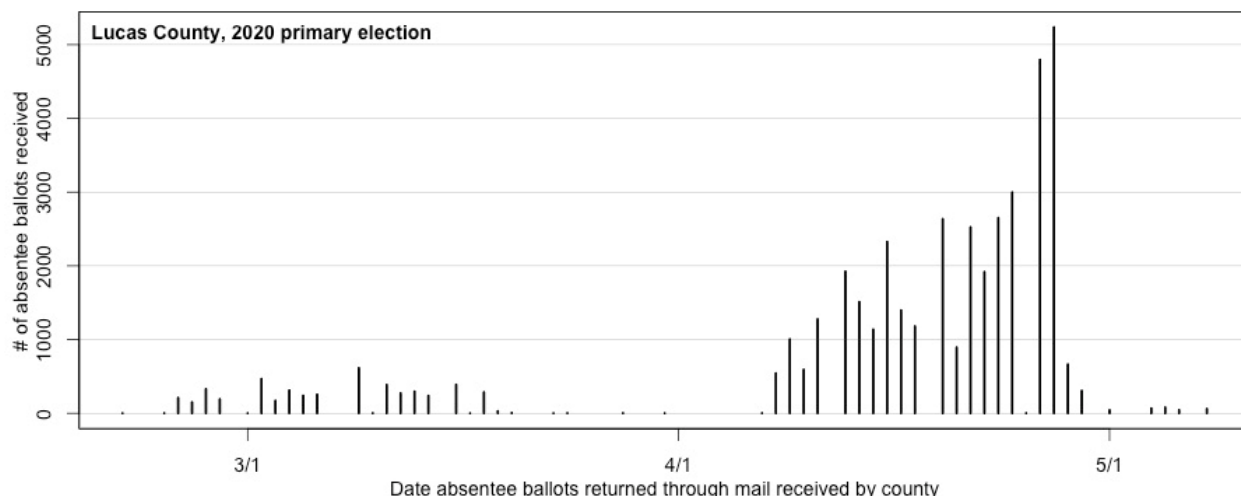


45. The timing was even tighter for the much larger number of absentee ballots returned through the mail for the 2020 federal primary election. In Lucas County, for instance, 1,266 (3% of) absentee ballots returned by mail were received back to the election office after election day, a further 10,033 (23.5%) on the Monday and Tuesday of the election week, and another 13,624 (31.9%) over the week before that. In sum, 24,923 absentee ballots (58.4% of those returned by mail) were received over the final 9 days through election day, or thereafter.<sup>56</sup> The median absentee ballot returned through the mail was received just 7 days before election day. Figure 5, below, illustrates the timing of absentee ballot return timing in Lucas County that year.

**Figure 5.** The timing of absentee ballots returned through the mail and received by Lucas County for the 2020 federal primary election

<sup>55</sup> I observed similar numbers for the 2016 general election in other counties. In Hamilton County, for instance, 27,851 absentee ballots were received by mail from Monday starting the week before the election, or 32.5% of all such ballots. In Clinton County, 28% were received by mail starting the week before election day.

<sup>56</sup> Again, I observed broadly similar numbers in other counties. Brown County: 52% over the final 9 days through election day, or thereafter. Clinton County: 68% over the final 9 days through election day, or thereafter. Hamilton County: 51% over the final 9 days through election day, or thereafter.



46. Once again, the last-minute postponement of Ohio's 2020 federal primary election also provides an unusually clear opportunity to assess the effect of allowing electors whose absentee ballot was rejected for alleged signature mismatch (or other reasons) extra time to resolve the issue. Only Summit County provided sufficient detail on signature mismatch ballot rejections to test this logic. I found that 86% of electors whose ballots were rejected for signature mismatch in early or mid-March were able to cure and vote, compared to just 43% of electors whose ballots were rejected for the same reason from mid- to late April (this difference is statistically significant at  $p=0.03$ ). This supports the claim that time constraints *per se* make electors whose absentee ballots are rejected close to Election Day less likely to vote, in addition to any underlying differences between the people who apply for an absentee ballot well in advance or quite late.

47. Overall, this section of my report shows that many Ohio voters tend to submit absentee ballots fairly close to election day, at a time when, especially given the additional pressure that may fall on the USPS due to pandemic conditions and a large increase in the number of people voting absentee, there is a great risk that any rejection for alleged signature mismatch would be reported too late for the issue to be resolved. For the 2016 general election, across various counties, around one third of voters submitted ballots that were received by mail only starting in the period of the week before the election, or thereafter. For the 2020 primary election, across several counties, this share rose to one half or higher.

## 7. Conclusion

48. In this report I have explained the inherent problem in requiring untrained, under-resourced and time-pressured lay people to verify voter signatures. Since election officials working under these conditions are bound to make errors, and since there are so many more valid than invalid signatures on absentee ballots (and absentee ballot applications), the inevitable result is that many valid signatures will be wrongly rejected for each invalid signature that is correctly rejected.

I have also presented evidence from Ohio elections suggesting that the problem affects substantial numbers of Ohio electors. To my knowledge, this is the first analysis to reveal that Ohio elections feature thousands of rejections at the absentee ballot *application* stage. Since absentee ballot applications are often submitted only a few days or weeks before the deadline, rejections at this stage are likely to hinder voting. Indeed, I have shown that many people whose application is rejected are able to resolve the issue—implying that the initial rejection was in fact mistaken. And yet, those who submit their applications with less time remaining are significantly less likely to be able to cure. I have also shown that many absentee ballots are submitted even closer to the relevant deadlines for mailing and receipt, leaving less time to cure any mistaken rejection. This is likely to be much more common in the November 2020 general election than in recent general elections. Since the number of Ohioans who wish to vote absentee is likely to rise sharply for the 2020 general election in November, I urge that Ohio officials who wish to avoid the needless rejection of many absentee ballots (and ballot applications) should cease checking signatures at the ballot application stage, which is not required by law, and should amend the deadlines to allow more time to cure any applications or ballots that are wrongly rejected for signature mismatch.

#### **8. Declaration**

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

A handwritten signature in black ink, appearing to read "Alex Street", with a stylized flourish at the end.

Alex Street, Ph.D., August 24, 2020, Helena, MT.

## References

Ahlquist, John S., Kenneth R. Mayer and Simon Jackman. 2014. "Alien Abduction and Voter Impersonation in the 2012 U.S. General Election: Evidence from a Survey List Experiment." *Election Law Journal: Rules, Politics, and Policy* 13(4): 460-475.

Altman, Douglas G. and J. Martin Bland. 1994. "Diagnostic tests 2: predictive values." *British Medical Journal* 309: 102.

Brady, Henry E. and John E. McNulty. 2011. "Turning Out to Vote: The Costs of Finding and Getting to the Polling Place." *American Political Science Review* 105(1): 115-134.

Gimpel, James G., Joshua J. Dyck and Daron R. Shaw. 2007. "Election-Year Stimuli and the Timing of Voter Registration." *Party Politics* 13(3): 351-374.

Goel, Sharad, Marc Meredith, Michael Morse, David Rothschild and Houshmand Shirani-Mehr. 2020. "One Person, One Vote: Estimating the Prevalence of Double Voting in U.S. Presidential Elections." *American Political Science Review* 114(2): 456-469.

Herron, Michael C. and Daniel A. Smith. 2012. "Souls to the Polls: Early Voting in Florida in the Shadow of House Bill 1355." *Election Law Journal* 11(3): 331-347.

Holbein, John B. and D. Sunshine Hillygus. 2016. "Making Young Voters: The Impact of Preregistration on Youth Turnout." *American Journal of Political Science* 60(2): 364-382.

Kam, Moshe, Kishore Gummadidala, Gabriel Fielding and Robert Conn. 2001. "Signature Verification by Forensic Document Examiners." *Journal of Forensic Science* 46(4): 884-888.

Levitt, Justin. 2011. Testimony before the United States Senate Committee on the Judiciary. September 8, 2011. Available at: <https://www.judiciary.senate.gov/imo/media/doc/11-9-8LevittTestimony.pdf> Accessed 12 July, 2020.

McNulty, John E., Conor M. Dowling and Margaret H. Ariotti. 2009. "Driving Saints to Sin: How Increasing the Difficulty of Voting Dissuades Even the Most Motivated Voters." *Political Analysis* 17(4): 435-455.

Minnite, Lorraine C. 2010. *The Myth of Voter Fraud*. Cornell University Press.

Sita, Jodi, Bryan Found and Douglas K. Rogers, 2002, "Forensic Handwriting Examiners' Expertise for Signature Comparison," *Journal of Forensic Science* 47(5): 1-8.

Stewart, Charles III. 2010. "Losing votes by mail." *New York University Journal of Legislation and Public Policy* 3: 573-602.

Street, Alex, Thomas A. Murray, John Blitzer and Rajan S. Patel. 2015. "Estimating Voter Registration Deadline Effects with Web Search Data." *Political Analysis* 23(2): 225-241.

### Appendix

**Table A1.** Numbers and percentages of ballots rejected in Ohio counties for signature mismatch, 2016 general election. Source: 2016 EAVS

County	Number of domestic absentee ballots rejected for signature mismatch, 2016 general election	Percentage of domestic absentee ballots rejected for signature mismatch, 2016 general election	Number of UOCAVA absentee ballots rejected for "signature problem," 2016 general election	Percentage of UOCAVA absentee ballots rejected for "signature problem," 2016 general election
ADAMS	0	0	0	0
ALLEN	2	0.028	0	0
ASHLAND	0	0	0	0
ASHTABULA	1	0.013	0	0
ATHENS	0	0	0	0
AUGLAIZE	1	0.026	0	0
BELMONT	1	0.009	0	0
BROWN	0	0	0	0
BUTLER	3	0.01	1	0.181
CARROLL	2	0.077	0	0
CHAMPAIGN	0	0	0	0
CLARK	0	0	0	0
CLERMONT	0	0	0	0
CLINTON	42	1.32	0	0
COLUMBIANA	0	0	0	0
COSHOCTON	0	0	0	0
CRAWFORD	1	0.027	0	0
CUYAHOGA	5	0.003	4	0.16
DARKE	0	0	0	0
DEFIANCE	0	0	0	0
DELAWARE	3	0.012	0	0
ERIE	2	0.027	0	0
FAIRFIELD	3	0.016	0	0
FAYETTE	0	0	0	0
FRANKLIN	69	0.049	2	0.099
FULTON	0	0	0	0
GALLIA	0	0	0	0
GEAUGA	0	0	0	0
GREENE	2	0.012	0	0
GUERNSEY	0	0	0	0



<b>Table A1 continued</b>				
<b>County</b>	<b>Number of domestic absentee ballots rejected for signature mismatch, 2016 general election</b>	<b>Percentage of domestic absentee ballots rejected for signature mismatch, 2016 general election</b>	<b>Number of UOCAVA absentee ballots rejected for "signature problem," 2016 general election</b>	<b>Percentage of UOCAVA absentee ballots rejected for "signature problem," 2016 general election</b>
HAMILTON	44	0.053	0	0
HANCOCK	4	0.075	0	0
HARDIN	1	0.051	0	0
HARRISON	0	0	0	0
HENRY	1	0.058	0	0
HIGHLAND	0	0	0	0
HOCKING	2	0.077	0	0
HOLMES	0	0	0	0
HURON	0	0	0	0
JACKSON	2	0.078	0	0
JEFFERSON	0	0	0	0
KNOX	0	0	0	0
LAKE	4	0.012	0	0
LAWRENCE	8	0.146	0	0
LICKING	0	0	1	0.41
LOGAN	0	0	2	3.125
LORAIN	0	0	0	0
LUCAS	13	0.039	0	0
MADISON	14	0.332	1	1.786
MAHONING	1	0.003	0	0
MARION	4	0.077	0	0
MEDINA	3	0.015	0	0
MEIGS	0	0	0	0
MERCER	1	0.025	0	0
MIAMI	6	0.061	0	0
MONROE	0	0	0	0
MONTGOMERY	0	0	0	0
MORGAN	0	0	0	0
MORROW	0	0	0	0
MUSKINGUM	8	0.097	0	0
NOBLE	0	0	0	0
OTTAWA	0	0	0	0
PAULDING	0	0	0	0

<b>Table A1 continued</b>				
<b>County</b>	<b>Number of domestic absentee ballots rejected for signature mismatch, 2016 general election</b>	<b>Percentage of domestic absentee ballots rejected for signature mismatch, 2016 general election</b>	<b>Number of UOCAVA absentee ballots rejected for "signature problem," 2016 general election</b>	<b>Percentage of UOCAVA absentee ballots rejected for "signature problem," 2016 general election</b>
PERRY	1	0.029	0	0
PICKAWAY	2	0.04	0	0
PIKE	0	0	0	0
PORTAGE	0	0	0	0
PREBLE	1	0.039	0	0
PUTNAM	0	0	0	0
RICHLAND	0	0	1	0.69
ROSS	0	0	0	0
SANDUSKY	0	0	0	0
SCIOTO	2	0.039	0	0
SENECA	1	0.03	0	0
SHELBY	0	0	0	0
STARK	18	0.047	0	0
SUMMIT	25	0.043	5	0.597
TRUMBULL	1	0.005	1	0.353
TUSCARAWAS	1	0.011	0	0
UNION	1	0.021	1	1.333
VAN WERT	0	0	0	0
VINTON	0	0	0	0
WARREN	14	0.053	0	0
WASHINGTON	0	0	0	0
WAYNE	4	0.047	0	0
WILLIAMS	0	0	0	0
WOOD	0	0	0	0
WYANDOT	0	0	0	0
<b>TOTAL</b>	324	0.03%	19	0.11%

**Table A2.** Numbers and percentages of ballots rejected in Ohio counties for signature mismatch, 2018 general election. Source: 2018 EAVS

County	Number of domestic absentee ballots rejected for signature mismatch, 2018 general election	Percentage of domestic absentee ballots rejected for signature mismatch, 2018 general election	Number of UOCAVA absentee ballots rejected for "signature problem," 2018 general election	Percentage of UOCAVA absentee ballots rejected for "signature problem," 2018 general election
ADAMS	0	0	0	0
ALLEN	0	0	0	0
ASHLAND	0	0	0	0
ASHTABULA	4	0.062	0	0
ATHENS	0	0	0	0
AUGLAIZE	0	0	0	0
BELMONT	4	0.045	0	0
BROWN	3	0.124	0	0
BUTLER	1	0.004	1	0.45
CARROLL	0	0	0	0
CHAMPAIGN	0	0	0	0
CLARK	2	0.026	0	0
CLERMONT	0	0	0	0
CLINTON	1	0.039	0	0
COLUMBIANA	0	0	0	0
COSHOCTON	0	0	0	0
CRAWFORD	0	0	0	0
CUYAHOGA	1	0.001	0	0
DARKE	0	0	0	0
DEFIANCE	0	0	0	0
DELAWARE	11	0.057	0	0
ERIE	4	0.067	0	0
FAIRFIELD	3	0.022	0	0
FAYETTE	1	0.084	0	0
FRANKLIN	18	0.017	1	0.106
FULTON	0	0	0	0
GALLIA	0	0	0	0
GEAUGA	3	0.028	0	0
GREENE	1	0.008	1	0.383
GUERNSEY	0	0	0	0
HAMILTON	28	0.041	2	0.248
HANCOCK	0	0	1	2.778

<b>Table A2, continued</b>				
<b>County</b>	<b>Number of domestic absentee ballots rejected for signature mismatch, 2018 general election</b>	<b>Percentage of domestic absentee ballots rejected for signature mismatch, 2018 general election</b>	<b>Number of UOCAVA absentee ballots rejected for "signature problem," 2018 general election</b>	<b>Percentage of UOCAVA absentee ballots rejected for "signature problem," 2018 general election</b>
HARDIN	0	0	0	0
HARRISON	0	0	0	0
HENRY	0	0	1	7.692
HIGHLAND	0	0	0	0
HOCKING	1	0.046	0	0
HOLMES	0	0	0	0
HURON	0	0	0	0
JACKSON	0	0	0	0
JEFFERSON	0	0	0	0
KNOX	0	0	0	0
LAKE	0	0	0	0
LAWRENCE	9	0.205	0	0
LICKING	0	0	0	0
LOGAN	1	0.039	0	0
LORAIN	3	0.012	0	0
LUCAS	11	0.041	0	0
MADISON	8	0.221	0	0
MAHONING	4	0.019	0	0
MARION	0	0	0	0
MEDINA	16	0.104	1	0.862
MEIGS	0	0	0	0
MERCER	0	0	0	0
MIAMI	1	0.014	0	0
MONROE	0	0	0	0
MONTGOMERY	38	0.1	0	0
MORGAN	0	0	0	0
MORROW	0	0	0	0
MUSKINGUM	4	0.067	0	0
NOBLE	0	0	0	0
OTTAWA	0	0	0	0
PAULDING	0	0	0	0
PERRY	0	0	0	0
PICKAWAY	3	0.078	0	0

<b>Table A2, continued</b>				
<b>County</b>	<b>Number of domestic absentee ballots rejected for signature mismatch, 2018 general election</b>	<b>Percentage of domestic absentee ballots rejected for signature mismatch, 2018 general election</b>	<b>Number of UOCAVA absentee ballots rejected for "signature problem," 2018 general election</b>	<b>Percentage of UOCAVA absentee ballots rejected for "signature problem," 2018 general election</b>
PIKE	0	0	0	0
PORTAGE	8	0.071	0	0
PREBLE	3	0.155	0	0
PUTNAM	0	0	0	0
RICHLAND	0	0	0	0
ROSS	0	0	0	0
SANDUSKY	0	0	0	0
SCIOTO	1	0.026	0	0
SENECA	0	0	0	0
SHELBY	0	0	0	0
STARK	9	0.031	0	0
SUMMIT	12	0.025	1	0.258
TRUMBULL	2	0.014	0	0
TUSCARAWAS	3	0.042	0	0
UNION	1	0.026	0	0
VAN WERT	0	0	0	0
VINTON	0	0	0	0
WARREN	0	0	0	0
WASHINGTON	1	0.022	0	0
WAYNE	0	0	0	0
WILLIAMS	1	0.056	0	0
WOOD	0	0	0	0
WYANDOT	0	0	0	0
<b>TOTAL</b>	225	0.02%	9	0.12%

# **Exhibit A**

THOMAS J. MARSHALL  
GENERAL COUNSEL  
AND EXECUTIVE VICE PRESIDENT



July 30, 2020

Honorable Frank LaRose  
Ohio Secretary of State  
22 North 4th Street, Floor 16  
Columbus, OH 43215-3668

Dear Secretary LaRose:

Re: Deadlines for Mailing Ballots

With the 2020 General Election rapidly approaching, this letter follows up on my letter dated May 29, 2020, which I sent to election officials throughout the country. That letter highlighted some key aspects of the Postal Service's delivery processes. The purpose of this letter is to focus specifically on the deadlines for requesting and casting ballots by mail. In particular, we wanted to note that, under our reading of Ohio's election laws, certain deadlines for requesting and casting mail-in ballots are incongruous with the Postal Service's delivery standards. This mismatch creates a risk that ballots requested near the deadline under state law will not be returned by mail in time to be counted under your laws as we understand them.

As I stated in my May 29 letter, the two main classes of mail that are used for ballots are First-Class Mail and USPS Marketing Mail, the latter of which includes the Nonprofit postage rate. Voters must use First-Class Mail (or an expedited level of service) to mail their ballots and ballot requests, while state or local election officials may generally use either First-Class Mail or Marketing Mail to mail blank ballots to voters. While the specific transit times for either class of mail cannot be guaranteed, and depend on factors such as a given mailpiece's place of origin and destination, most domestic First-Class Mail is delivered 2-5 days after it is received by the Postal Service, and most domestic Marketing Mail is delivered 3-10 days after it is received.

To account for these delivery standards and to allow for contingencies (e.g., weather issues or unforeseen events), the Postal Service strongly recommends adhering to the following timeframe when using the mail to transmit ballots to domestic voters:

- **Ballot requests:** Where voters will both receive and send a ballot by mail, voters should submit their ballot request early enough so that it is received by their election officials at least 15 days before Election Day at a minimum, and preferably long before that time.
- **Mailing blank ballots to voters:** In responding to a ballot request, election officials should consider that the ballot needs to be in the hands of the voter so that he or she has adequate time to complete it and put it back in the mail stream so that it can be processed and delivered by the applicable deadline. Accordingly, the Postal Service recommends that election officials use First-Class Mail to transmit blank ballots and allow 1 week for delivery to voters. Using Marketing Mail will result in slower delivery times and will increase the risk that voters will not receive their ballots in time to return them by mail.

475 L'ENFANT PLAZA SW  
WASHINGTON DC 20260-1100

(b)(6); (b)(3)-39

FAX: 202-268-6981

(b)(6); (b)(3)-39 USC

www.usps.com



- **Mailing completed ballots to election officials:** To allow enough time for ballots to be returned to election officials, domestic voters should generally mail their completed ballots at least one week before the state's due date. In states that require mail-in ballots to be *both* postmarked before Election Day *and* received by election officials by a specific date that is one week or more after Election Day, voters may generally mail their ballot up until November 2, the day before the 2020 general election. However, voters who mail in their ballots on November 2 must be aware of the posted collection times on collection boxes and at the Postal Service's retail facilities, and that ballots entered after the last posted collection time on a given day will not be postmarked until the following business day.

Under our reading of your state's election laws, as in effect on July 27, 2020, certain state-law requirements and deadlines appear to be incompatible with the Postal Service's delivery standards and the recommended timeframe noted above. As a result, to the extent that the mail is used to transmit ballots to and from voters, there is a significant risk that, at least in certain circumstances, ballots may be requested in a manner that is consistent with your election rules and returned promptly, and yet not be returned in time to be counted.

Specifically, it appears that a completed ballot must be postmarked before Election Day and received by election officials within 10 days after the election. If that understanding is correct, voters who choose to mail their ballots may do so on or before Monday, November 2. However, it further appears that state law generally permits voters to apply by mail for a ballot as late as 3 days before the election. If a voter submits a request at or near the deadline, and the ballot is transmitted to the voter by mail, there is a significant risk that the ballot will not reach the voter before the state's postmark deadline of November 2, and accordingly that the voter will not be able to use the ballot to cast his or her vote. That risk is exacerbated by the fact that the law does not appear to impose a time period by which election officials must transmit a ballot to the voter in response to a request.

To be clear, the Postal Service is not purporting to definitively interpret the requirements of your state's election laws, and also is not recommending that such laws be changed to accommodate the Postal Service's delivery standards. By the same token, however, the Postal Service cannot adjust its delivery standards to accommodate the requirements of state election law. For this reason, the Postal Service asks that election officials keep the Postal Service's delivery standards and recommendations in mind when making decisions as to the appropriate means used to send a piece of Election Mail to voters, and when informing voters how to successfully participate in an election where they choose to use the mail. It is particularly important that voters be made aware of the transit times for mail (including mail-in ballots) so that they can make informed decisions about whether and when to (1) request a mail-in ballot, and (2) mail a completed ballot back to election officials.

We remain committed to sustaining the mail as a secure, efficient, and effective means to allow citizens to participate in the electoral process when election officials determine to utilize the mail as a part of their election system. Ensuring that you have an understanding of our operational capabilities and recommended timelines, and can educate voters accordingly, is important to achieving a successful election season. Please reach out to your assigned election mail coordinator to discuss the logistics of your mailings and the services that are available as well as any questions you may have. A list of election mail coordinators may be found on our website at: <https://about.usps.com/election-mail/politicalection-mail-coordinators.pdf>.

We hope the information contained in this letter is helpful, and please let me know if you have any questions or concerns.

Sincerely,

(b)(6); (b)(3):39 USC 410 (c)(2)

Thomas J. Marshall

# **Exhibit B**

**Alex Street**

CONTACT	Carroll College, 1601 N. Benton Ave., Helena, Montana 59625	phone: 406 447 4331 email: <a href="mailto:astreet@carroll.edu">astreet@carroll.edu</a>
ACADEMIC APPOINTMENTS	2017- Associate Professor of Political Science and Intl. Relations, Carroll College. 2014-17 Assistant Professor of Political Science and Intl. Relations, Carroll College. 2013-14 Research Fellow, Max Planck Society. 2012-13 Visiting Fellow, Cornell Institute for European Studies. 2011-12 Max Weber Postdoctoral Fellow, European University Institute.	
EDUCATION	University of California, Berkeley  Ph.D., Political Science, December 2011. MA, Political Science, May 2006.  Humboldt University, Berlin  Post-Graduate Fellow, 2004-05.  University of Oxford  First Class BA, Politics, Philosophy and Economics, 2003.	
REFEREED JOURNAL PUBLICATIONS	<p>[1] "Understanding Support for Immigrant Political Representation: Evidence from German Cities." With Karen Schönwälder, <i>Journal of Ethnic and Migration Studies</i>, published online February 6, 2019, doi: <a href="https://doi.org/10.1080/1369183X">10.1080/1369183X</a>.</p> <p>[2] "Political Effects of Having Undocumented Parents." With Michael Jones-Correa &amp; Chris Zepeda-Millán, <i>Political Research Quarterly</i>, 70(4):818-32. 2017.</p> <p>[3] "The Political Effects of Immigrant Naturalization." <i>International Migration Review</i>, 51(2): 323-43. 2017.</p> <p>[4] "Estimating Voter Registration Deadline Effects with Web Search Data." With Thomas A. Murray, John Blitzer and Rajan S. Patel, <i>Political Analysis</i>, 23(2): 212-24. 2015.</p> <p>[5] "Mass Deportations and the Future of Latino Partisanship." With Michael Jones-Correa &amp; Chris Zepeda-Millán. <i>Social Science Quarterly</i>, 96(2): 540-52. 2015.</p> <p>[6] "My Child Will Be A Citizen: Intergenerational Motives for Naturalization." <i>World Politics</i>, 66(2): 264-98. 2014.</p> <p>[7] "Representation Despite Discrimination: Minority Candidates in Germany." <i>Political Research Quarterly</i>, 67(2): 374-85. 2014.</p> <p>[8] "Naturalization Dynamics in Immigrant Families." <i>Comparative Migration Studies</i> 1(1):23-44. 2013.</p> <p>[9] "Schooling the next generation of German citizens: A comparison of citizenship curricula in Berlin and Baden-Württemberg." With Daniel Faas. <i>Educational Studies</i> 37(4): 469-79. 2011.</p>	

OTHER  
PUBLICATIONS

- [10] Review of *Documenting Americans: A Political History of National ID Card Proposals in the United States*. In *Perspectives on Politics* 18(2): 639-640. 2020.
- [11] Brief for Amicus Curiae Professor Alexander Street, Ph.D. In Support of Appellees, Chelsea Collaborative v. Galvin, Commonwealth of Massachusetts Supreme Judicial Court (no. SJC-12435). 2018.
- [12] Review of *Immigration and New Limits on Citizenship Rights: Denmark and Beyond*. In *Contemporary Sociology* 45(6): 798-99. 2016.
- [13] "Studying Minority Politics with Survey Experiments and Election Data." *APSA Migration and Citizenship Newsletter* 4(1): 23-28. December 2015.
- [14] "Google data suggest millions of Americans are prevented from voting by early registration deadlines" *LSE US Centre blog*, April 14 2015.
- [15] "Google searches show that millions of people wanted to vote but couldn't." *The Monkey Cage blog*, The Washington Post, March 26 2015.
- [16] "Immigration and Integration," in Sarah Colvin, ed., *Routledge Handbook of German Politics and Culture*. 2014, with Randall Hansen.
- [17] "Mass deportations are alienating young Latino voters from the Democratic Party." *Latino Decisions blog*, May 19 2014.
- [18] "The Political Effects of Becoming a Citizen: Solution or Selection?" *Max Weber Programme working paper 2012/19*.

## TEACHING

- |  |             |
|--|-------------|
| Assistant and Associate Professor  | 2014-       |
| <i>Introduction to Comparative Politics; Political Economy; State and Nation in World Politics; Democracy and Autocracy; Political Research Methods; Citizenship, Global and Local; Elections, Political Parties and Public Opinion; Senior Seminar.</i> |             |
| Carroll College.   |             |
| Instructor   | Spring 2014 |
| <i>Migration and International Relations</i>   |             |
| MA class, University of Göttingen.   |             |
| Instructor   | Spring 2013 |
| <i>Introduction to Comparative Politics</i>  |             |
| Cornell Prison Education Project, Auburn Correctional Facility.  |             |
| Volunteer math instructor  | 2010-11     |
| Prison University Project, San Quentin State Prison.   |             |
| Teaching assistant   | 2006-2009   |
| <i>Comparative Political Economy; Intro. to Quantitative Methods; Intro. to Comparative Politics; Immigrants, Citizenship and the State; The Welfare State in Comparative Perspective.</i>   |             |
| University of California, Berkeley.  |             |

TEACHER TRAINING	Future proofing your courses, Carroll College, Summer 2020.
	Indigenous Studies Network short course, Washington, D.C., September 2019.
	MiClassroom technology pilot projects, Carroll College, Spring 2016 & Spring 2018.
	Service Learning training, Carroll College, Fall 2015.
	Fundamental Principles of Online Teaching, Carroll College, Summer 2015.
AWARDS	Prizes for scholarship
	<ul style="list-style-type: none"> <li>• 2017 Best article award, Migration and Citizenship section, American Political Science Association, for <i>Political Effects of Having Undocumented Parents</i></li> <li>• 2016 Best paper prize, Latino Politics section, Western Political Science Association, for <i>Political Effects of Having Undocumented Parents</i></li> </ul>
	Grants
	<ul style="list-style-type: none"> <li>• Montana PBS grant for Carroll College Exit Poll, 2018, PI <span style="float: right;">\$2,000</span></li> <li>• USB Renewable Energy, 2018, PI with J. Rowley <span style="float: right;">\$48,000</span></li> <li>• Russell Sage Foundation, 2013, PI with C. Zepeda-Millán <span style="float: right;">\$30,000</span></li> <li>• Cornell Institute for the Social Sciences, 2013, PI with M. Jones-Correa <span style="float: right;">\$12,000</span></li> </ul>
	Grants for classes and speaker series
	<ul style="list-style-type: none"> <li>• Diversity and Civil Discourse, Charles Koch Foundation, 2019-20 <span style="float: right;">\$18,000</span></li> <li>• Mallette grant support for collaboration with Tribal Colleges, 2016 <span style="float: right;">\$4,700</span></li> <li>• Mallette grant support for collaboration with Tribal Colleges, 2015 <span style="float: right;">\$1,300</span></li> <li>• Speaker Series, Cornell Institute for European Studies, 2012-13 <span style="float: right;">\$9,000</span></li> <li>• Course Development Grant, European Studies, UC Berkeley, 2010 <span style="float: right;">\$2,000</span></li> </ul>
	DATA FOR SCHOLARLY USE
	Latino Second Generation Study, 2012-2013 [United States] (ICPSR 36625). <a href="#">Link to dataset via ICPSR.</a>
	Carroll College Exit Polls 2014, 2016, 2017, 2018. <a href="#">Link to datasets via Carroll College institutional repository.</a>
	SELECTED CONFERENCE PRESENTATIONS
	<p>[1] “Constituent-Representative Communication in Diverse German Cities.” American Political Science Association annual meeting, Washington, D.C., September 2019.</p> <p>[2] “Can Political Threats Mobilize Latinos? Evidence from 2016” With Michael Jones-Correa and James McCann. American Political Science Association annual meeting, San Francisco, September 2017.</p>

- [3] “What do Immigrants and Natives Expect from City Politics?” With Karen Schönwälder. IMISCOE annual meeting, Prague, July 2016.
- [4] “Conceptualizing and Measuring Ticket Splitting.” With Kacey Gollehon (undergraduate advisee). Pacific Northwest Political Science Association annual meeting, Boise ID, October 2015.
- [5] “Explaining Demand for Descriptive Representation: Immigrants in German Cities.” Council for European Studies meeting, Paris, July 2015.
- [6] “Political Effects of Having Undocumented Parents.” With Michael Jones-Correa and Chris Zepeda-Millán. Western Political Science Association, Las Vegas, April 2015.
- [7] “Representation without Participation: Immigrants in German Cities.” International Association for the Study of German Politics meeting, London, May 2014.
- [8] “Mass Deportations and the Future of Latino Partisanship.” With Michael Jones-Correa and Chris Zepeda-Millán. Western Political Science Association meeting, Seattle, April 2014.
- [9] “The Politics of the US-Citizen Children of the Undocumented.” With Michael Jones-Correa and Chris Zepeda-Millán. Harvard University, Oct. 2013.
- [10] “Deportation Policies Shaping Latino Politics.” With Michael Jones-Correa and Chris Zepeda-Millán. American Political Science Association meeting, Aug. 2013.
- [11] “Early Registration Deadlines Disenfranchise Millions of Americans.” With Thomas A. Murray, John Blitzer and Rajan S. Patell. Cornell University, March 2013.
- [12] “Who are the EU Citizens? Characteristics, Attitudes and Political Behavior.” York University, Toronto, Oct. 2012.
- [13] “Intergenerational Motives for Naturalization.” Bundesanstalt für Migration und Flüchtlinge [German Ministry for Migration and Refugees], Nürnberg, June 2012.
- [14] “Political Engagement Before and After Becoming a Citizen.” Midwest Political Science Association annual meeting, April 2012.
- [15] “The Electoral Impact of Immigrant Candidates in Germany.” American Political Science Association annual meeting, Aug. 2011.
- [16] “Am I my Brother’s Keeper? Epidemics, Agenda-Setting and Public Support for Health Policy Interventions.” With Eric McDaniel and Taeku Lee. Midwest Political Science Association meeting, April 2011.
- [17] “Mum, Dad, and the Fatherland: How Families Shape Naturalization in Germany.” Council for European Studies annual meeting, June 2010.

ACADEMIC  
SERVICE

Director, Honors Scholars Program, Carroll College, 2019-.

Strategic Planning Task Force, Carroll College, 2019-20.

Political internships coordinator, Carroll College, 2018-19.

Equal Opportunity Policy investigation team, Carroll College, 2017-.



International Relations program director, Carroll College, 2015-.

Institutional Review Board member, Carroll College, 2015-.

Referee for academic journals: *American Politics Research*, *American Journal of Political Science*, *American Political Science Review*, *British Journal of Political Science*, *Canadian Journal of Political Science*, *Comparative Political Studies*, *Ethnic and Racial Studies*, *Ethnicities*, *International Migration Review*, *Journal of Ethnic and Migration Studies*, *Journal of International Migration and Integration*, *Journal of Politics*, *Party Politics*, *West European Politics*, *World Politics*.

Referee for funding proposals: Russell Sage Foundation, Social Science and Humanities Research Council of Canada.

Conference panel organizer/chair/discussant: CES 2015, MPSA 2012, CES 2010.

COMMUNITY  
SERVICE

Sun Run, fundraiser for installing solar panels at Carroll College, 2017 & 2018.

Presentation on Refugees, Hometown Helena, 2016.

Discussion leader, "Great Conversations" fundraiser, 2015, 2019.

Volunteer instructor, Auburn Correctional Facility, NY, 2013.

Volunteer instructor, San Quentin State Prison, CA, 2010-11.

CONSULTING

ACLU of New York, advisor on voter registration deadline case, 2018-.

ACLU of Massachusetts, advisor on voter registration deadline case, *Chelsea Collaborative v. Galvin*, Commonwealth of Massachusetts Supreme Judicial Court (no. SJC-12435), 2017-2018.

(CV last updated July 2020)